

## § 177.1555

inch) thick aluminum foil to a thickness of 0.10 millimeter (0.004 inch) after thermal curing at 427 °C (800 °F) for 10 minutes. If a primer is used, the total thickness of the primer plus topcoat shall equal 0.10 millimeter (0.004 inch) after heat curing.

(3) The extracted surfaces shall meet the following extractability limits:

(i) Total extractives not to exceed 3.1 milligrams per square decimeter (0.2 milligram per square inch).

(ii) Fluoride extractives calculated as fluorine not to exceed 0.46 milligram per square decimeter (0.03 milligram per square inch).

(f) *Conditions of use.* Perfluorocarbon resins identified in paragraph (a)(2) of this section are limited to use as coatings or components of coatings for articles intended for repeated food-contact use.

[43 FR 44834, Sept. 29, 1978, as amended at 47 FR 11843, Mar. 19, 1982; 47 FR 14699, Apr. 6, 1982; 49 FR 10109, Mar. 19, 1984; 50 FR 1502, Jan. 11, 1985; 54 FR 24898, June 12, 1989; 61 FR 14481, Apr. 2, 1996]

## § 177.1555 Polyarylate resins.

Polyarylate resins (CAS Reg. No. 51706-10-6) may be safely used as articles or components of articles intended for use in contact with food in accordance with the following prescribed conditions:

(a) *Identity.* Polyarylate resins (1, 3-benzenedicarboxylic acid, diphenyl ester, polymer with diphenyl 1,4-benzenedicarboxylate and 4,4'-(1-methylethylidene) bis(phenol)) are formed by melt polycondensation of bisphenol-A with diphenylisophthalate and diphenylterephthalate.

(b) *Specifications.* (1) The finished copolymers shall contain from 70 to 80 weight percent of polymer units derived from diphenylisophthalate and 20 to 30 weight percent of polymer units derived from diphenylterephthalate.

(2) Polyarylate resins shall have a minimum weight average molecular weight of 20,000.

(3) Polyarylate resins may be identified by their characteristic infrared spectra.

(c) *Extractive limitations.* The finished polyarylate resins in sheet form at least 0.5 millimeter (0.020 inch) thick, when extracted with water at 121 °C

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(250 °F) for 2 hours, shall yield total nonvolatile extractives not to exceed 2.33 micrograms per square centimeter (15 micrograms per square inch) of the exposed resin surface.

(d) *Limitations.* Polyarylate resin articles may be used in contact with all foods except beverages containing more than 8 volume percent ethanol under conditions of use A through H, described in table 2 of § 176.170(c) of this chapter.

[52 FR 35540, Sept. 22, 1987]

## § 177.1556 Polyaryletherketone resins.

The poly(oxy-1,4-phenylenecarbonyl-1,4-phenyleneoxy-1,4-phenylenecarbonyl-1,4-phenylene) resins (CAS Reg. No. 55088-54-5 and CAS Reg. No. 60015-05-6 and commonly referred to as polyaryletherketone resins) identified in paragraph (a) of this section may be safely used as articles or components of articles intended for repeated use in contact with food, subject to the provisions of this section.

(a) *Identity.* Polyaryletherketone resins consist of basic resins produced by reacting 4,4'-diphenoxy benzophenone and terephthaloyl dichloride in such a way that the finished resins have a minimum weight average molecular weight of 20,000 grams per mole, as determined by light scattering measurements in sulfuric acid at room temperature.

(b) *Optional adjuvant substances.* The basic polyaryletherketone resins identified in paragraph (a) of this section may contain optional adjuvant substances required in the production of such basic resins. These adjuvants may include substances used in accordance with § 174.5 of this chapter and the following:

(1) Benzoyl chloride, poly(tetrafluoroethylene).

(2) [Reserved]

(c) *Extractive limitations.* The finished food-contact article yields net total extractives in each extracting solvent not to exceed 0.052 milligram per square inch (corresponding to 0.008 milligram per square centimeter) of food-contact surface, when extracted at reflux temperature for 2 hours with the following solvents: Distilled water, 50 percent (by volume) ethyl alcohol in